

ARTICLE APPEARED  
ON PAGE 2-A

MIAMI HERALD  
2 July 1985

# U.S. spy in sky keeps watch on Soviet Union wheat fields

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WASHINGTON — Two weeks ago, when a delegation from the U.S. Department of Agriculture went to Moscow, they asked their Soviet counterparts to bring them up to date on how much wheat the country had produced in each of the last four years.

The Soviets politely refused.

That rejection didn't make headlines. In fact, American officials returned to Washington publicly heralding the return of cooperation between two countries.

But the failure to get those four numbers on a piece of paper was a major disappointment on the sixth floor of the USDA building here, where a group of scientists, economists, agronomists and meteorologists have spent the last four years unable to find out if they are right or wrong.

"Ever since the Soviet Union quit putting out the numbers on the size of their annual wheat crop four years ago, we never get to learn if our estimates of their crop are good," said John Roney, an analyst for the USDA's World Outlook Board.

"All we need is those four numbers to find out. Otherwise, it's like playing a game and never getting the satisfaction of finding out if you won or lost."

In the spring of 1974, the U.S. government launched one of its most ambitious spy operations from an unlikely spot: the corn and wheat fields outside Garden City, Kan.

While satellites took pictures overhead, government teams stalked the flat prairie for months, taking measurements and surveying the area in low-flying helicopters.

The information gathered in western Kansas and other farm areas was used to create a computer technology so refined it can now detect the difference between a field of popcorn and a field of corn from pictures sent by a satellite orbiting 440 miles overhead.

That technology is used in one of the world's best surveillance networks, a system that collects information on one of the Soviet Union's most carefully guarded secrets: the size and quality of its wheat harvest.

Since the early 1970s, when huge wheat purchases prompted by a series of disastrous Soviet wheat harvests took both farmers and the U.S. government by surprise, the USDA has spent millions of dollars to monitor the farms of both its competitors and its customers.

## Free information

The information, collected to help farmers gauge the export markets, is published monthly by the USDA's World Outlook Board and supplied free of charge to anyone who wants it. The Soviets themselves pick up the data. USDA officials say, to check their

own crop forecasts — as well as calculate what price Americans and other producers may charge for their grain.

Because the world grain trade, and its prices, rely so heavily on the USDA information, the work itself is heavily guarded: The window shades are wired shut and the doors are locked inside the USDA conference room when analysts assemble once a month to discuss and interpret data before issuing their estimates.

And because the Soviet Union is so careful to protect its farms and production numbers from close scrutiny, collecting the information sometimes takes on the elements of an operation by the Central Intelligence Agency, which also makes its own estimates on the Soviet wheat crop.

"There is a big picture we want for a big country, but we have to fill it in with very minute pieces of the puzzle," said a former U.S. attache in the Moscow embassy. "It's a task that takes everything

you can find, from weather reports to a line out of a newspaper, and it takes 18 hours a day. And then you go to bed, wondering if you're right."

The attaches sent by the USDA to Moscow are severely restricted on where and when they can travel in the country. Unlike their counterparts in the Soviet Embassy here, who recently staged a vodka and caviar reception in order to talk with aides on the House Agriculture Committee, their contact with agriculture officials is also limited.

And a certain mistrust between both groups prevails. Several years ago, an agriculture attache from the U.S. Embassy filed a protest after he contracted severe stomach pains on a trip, charging the Soviets had doctored his food to prevent him from observing the wheat crop.

In their recent meetings, the Soviet officials agreed to allow U.S. survey teams to visit Soviet wheat areas at harvest, beginning this fall. That may be a step toward better access to information, but at least one participant in the talks warned Americans not to get too excited.

## Cynicism prevalent

"Presumably it's expanded access, but don't get your hopes up," said Avram Guroff, an assistant in the USDA's Office of International Cooperation and Development. "They agreed to be cooperative in principle, but there's a lot of cynicism on both sides."

With limited reports available from observers stationed in Moscow, the USDA must rely largely on the weather and crop analyses collected 24 hours a day by satellites.

Of that data, the color pictures from the LANDSAT satellite are becoming increasingly important. By comparing the satellite's infrared pictures, analysts at USDA now can detect different crops in different stages of development and pinpoint areas where crops are suffering from excessive moisture or heat.

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Wheat that is flourishing at the height of the growing season, for instance, will show up in much brighter hues of red than wheat that is suffering from disease or behind in its usual growing schedule.

The LANDSAT technology is still being perfected. But Bobby Spires, the man who has overseen development of the project for the last 10 years, says the program is already paying off its investment. Now all he needs are those Soviet wheat production figures.

"Last year I spent \$7 million a year to get data, but that works out to less than 10 cents for every ton of wheat exported," Spires said. "I'm confident we're doing a good job. I think we're real close. I just wish I could get my hands on those numbers from the Soviet Union and prove it."